

**REMARKS**

Claims 1-4, 6-9 and 13-17 currently appear in this application. The Office Action of August 8, 2006, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicants respectfully request favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

**Election/Restrictions**

It is noted that claims 8 and 9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

**Art Rejections**

Claims 1-3, 6, 7 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kang et al., 2002/0162456.

This rejection is respectfully traversed. Kang does not teach that a surfactant such as alkylbenzene sulfate is attached to the surfaces of the continuous pores. Rather, Kang teaches at paragraphs 0019 and 0021 that the transport membrane comprises a solid polymer electrolyte and a porous support membrane for supporting the solid polymer electrolyte and that the solid polymer electrolyte comprises a non-volatile surfactant. That is, the surfactant is attached to

the solid polymer electrolyte, not to the porous support membrane.

In the ionic conductor as claimed herein, the surfactant is attached to the pores of the porous body so that ions can move at a relatively high speed with a minimum of resistance. This is discussed in detail in the specification as filed at page 5, line 17 through page 6, line 7. That is, in the conductor claimed herein, the ions move on the surface of interface of the solid, so that the ions can move freely without being restricted by the magnitude of the gap in the case, as in Kang, where the functional groups are fixed in position.

Moreover, Kang teaches using the surfactant, but does not teach using ionizable functional groups such as  $\text{-SO}_3^-$  or  $\text{-N}^+(\text{CH}_3)_3$ . In the presently claimed conductor, however, because the ionizable functional groups, e.g.,  $\text{-SO}_3^-$  or  $\text{-N}^+(\text{CH}_3)_3$ , are attached to the surfaces of the pores. Therefore, the various of ions, such as a univalent ion or a multivalent ion, can move freely through the pores. This is described in more detail in the specification as filed at page 13, line 19 to page 16, line 22. Kang neither teaches nor suggests such ionizable functional groups that permit the ions to move freely through the pores.

Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang in view of Kwasniewski et al., US 5,863,420.

This rejection is respectfully traversed. AS noted above, there is nothing in Kang that teaches or suggests using ionizable functional groups that permit the ions to move freely through the pores. The teaching of Kwasniewski that a transport membrane used in selectivity of alkene has a pore size of about 0.05 microns and an overall porosity of about 40% does not add to Kang, since Kwasniewski does not teach or suggest the use of ionizable functional groups that permit the ions to move freely through the pores.

Claims 1-7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnabel et al., US 4,780,369.

This rejection is respectfully traversed. Schnabel does not teach functional groups attached to the surface of the continuous pores. Schnabel does not teach using ionizable functional groups, e.g.,  $-\text{SO}_3^-$  or  $-\text{N}^+(\text{CH}_3)_3$ , which are ions. Schnabel merely teaches the structure in which functional groups such as  $\text{NaSO}_3$  are attached to the surfaces of the continuous pores. This is a typical ion exchange membrane structure, and is different from the ionic conductor as claimed herein. It is apparent that Schnabel neither teaches

nor suggests that the ionizable functional groups are attached to surfaces of the continuous pores formed in the porous body.

Prior Art Made of Record

It is noted that the prior art made of record but not relied upon is merely considered to be pertinent to applicant's disclosure.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

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